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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

IN THE MATTER OF:

Palmerton Zinc Site

Horsehead Industries, Inc., and its
Division, The New Jersey Zinc Company
204 E. 39th Street
New York, NY 10016

Gulf & Western Industries, Inc.
One Gulf & Western Plaza
New York, NY 10023

U.S. EPA Docket No.
III-85-23-DC

Respondents

Proceeding Under Section 106(a)
of the Comprehensive Environ-
mental Response, Compensation,
and Liability Act of 1980
(42 U.S.C. §9606(a))

ADMINISTRATIVE ORDER BY CONSENT

The parties to this Administrative Order By Consent ("Consent Order"),
having agreed to the entry of this Consent Order, it is therefore Ordered,
Adjudged, and Decreed that:

I. JURISDICTION

This Consent Order is issued pursuant to the authority vested in the
President of the United States by Section 106(a) of the Comprehensive
Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"),
42 U.S.C. §9606(a), and delegated to the Administrator of the United States
Environmental Protection Agency ("EPA") on August 14, 1981, by Executive
Order 12316, 46 Fed. Reg. 42237, and further delegated to the Assistant

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Administrator for Solid Waste and Emergency Response and the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-C, the latter of which was signed on April 16, 1984.

Subject to the provisions of this Order, the respondents agree, solely for the purpose of meeting the requirements of EPA for certain Remedial Investigations and Feasibility Studies, and without admitting the jurisdiction of EPA to take any action beyond the scope of this Consent Order or the propriety of such action under CERCLA or otherwise, to undertake all actions required of them by the terms and conditions of this Consent Order and agree not to contest EPA's jurisdiction to enter this Consent Order or the respondents' obligations assumed under this Consent Order.

II. STATEMENT OF PURPOSE

In entering into this Consent Order, the objectives of EPA and the respondents are to conduct 1) as to the New Jersey Zinc Company a Remedial Investigation and Feasibility Study ("RI/FS") for the Palmerton Zinc Plant - Cinder Bank; 2) as to Gulf & Western Industries, Inc., an RI/FS on certain offsite areas. The activities conducted pursuant to this Consent Order shall be consistent with the National Contingency Plan, 40 CFR Part 300.68(c)-(i) (47 Fed. Reg. 31180, July 16, 1982, revised at 48 Fed. Reg. 40658, September 8, 1983).

III. FINDINGS AND DETERMINATIONS

EPA has determined that:

A. The respondents are Horsehead Industries, Inc., and its Division, The New Jersey Zinc Company ("New Jersey Zinc"), and Gulf & Western

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Industries, Inc., ("G & W"). Corporate headquarters for New Jersey Zinc are located at 204 E. 39th Street, New York, New York 10016. Local offices are at 4th Street and Delaware Avenue, Palmerton, Pennsylvania 18071. Corporate headquarters for G & W are located at One Gulf & Western Plaza, New York, New York 10023.

B. The Palmerton Zinc Site ("Site") includes a cinder bank approximately 2 1/2 miles long and other portions of property currently owned by New Jersey Zinc in Carbon County, Pennsylvania. The Site also includes an area outside the Palmerton Zinc Plant property ("off-plant area").

C. The cinder bank consists of approximately 33 million tons of material from a zinc smelter now owned by New Jersey Zinc.

D. New Jersey Zinc is the current owner of the cinder bank as well as the smelter. G & W is a prior owner of the cinder bank and smelter.

E. The Palmerton Zinc Pile is on the National Priorities List in accordance with Section 105(8) of CERCLA, 42 U.S.C. §9605(8).

F. Hazardous substances within the meaning of Section 101(14) of CERCLA, 42 U.S.C. §9601(14), are present at the Site. Substances of primary concern are arsenic, cadmium, copper, lead, selenium and zinc.

G. The Aquashicola Creek, which joins the Lehigh River downstream, is adjacent to the Site and ground water resources are found below the Site.

H. Preliminary data indicate that surface runoff and erosion from the Site discharge into the Aquashicola Creek. Samples from shallow wells at the Site have shown elevated levels of cadmium. Soil samples from the off-plant area indicate the presence of elevated levels of cadmium.

I. These conditions constitute "a release or threat of a release" as defined in Section 101(22) of CERCLA, 42 U.S.C. §9601(22).

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J. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. §9601(9).

K. New Jersey Zinc and G & W are "persons" as defined in Section 101(21) of CERCLA, 42 U.S.C. §9601(21).

L. Because of an actual or threatened release of hazardous substances from the Site, there may be an imminent and substantial endangerment to the public health or welfare or the environment, warranting the further investigation of conditions at the Site as provided herein.

IV. PARTIES BOUND

This Consent Order shall apply to and be binding upon New Jersey Zinc, G & W and EPA, their agents, successors, and assigns. Notice of this Consent Order shall be given to all persons, contractors and consultants acting under or for either New Jersey Zinc, G & W or EPA or any combination of the above, in connection with the work required herein.

In the event of any change in ownership or control of the cinder bank or Palmerton Plant, New Jersey Zinc shall notify the EPA in writing of such change and shall provide a copy of this Order to the transferee in interest.

V. NOTICE TO THE STATE

Notice of issuance of this Order has been given to the State of Pennsylvania, pursuant to Section 106(a) of CERCLA, 42 U.S.C. §9606(a).

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VI. WORK TO BE PERFORMED

All response work performed pursuant to this Consent Order shall be under the direction and supervision of qualified personnel. New Jersey Zinc and G & W shall notify EPA in writing, forty-five (45) days prior to the initiation of their respective Site work, of the identity of the persons to be primarily responsible for and of any contractor and/or subcontractors to be used in carrying out the terms of this Consent Order. EPA may disapprove the use of any supervisory personnel, contractor and/or subcontractor if EPA believes they are not qualified to perform the response work. EPA shall not unreasonably veto New Jersey Zinc's or G & W's choice of supervisory personnel, contractor or subcontractor. In the event of a disapproval, EPA shall be notified within thirty (30) days of the person, contractor or subcontractor that will replace the one that was disapproved, and the work schedule provided in the Scope of Work applicable to the respondent whose choice of personnel has been disapproved shall be extended for a period equal to the length of time it takes that respondent to find a new contractor or subcontractor. In the event that agreement cannot be reached within 30 days after disapproval by EPA, EPA reserves the right to perform the RI/FS for that respondent to the extent authorized by CERCLA. In the event of such election by EPA, that respondent's obligations assumed hereunder shall terminate without penalty.

Work shall be performed by each respondent in accordance with the terms and conditions of its respective Scope of Work, attached hereto and incorporated into the Consent Order.

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Within thirty (30) days after receipt of any Site Operations Plan ("SOP") by EPA (as required by each attached Scope of Work), EPA shall notify the respondent submitting such SOP, in writing, of EPA's approval or disapproval of the SOP or any part thereof. In the event of any disapproval, EPA shall give notice of the deficiencies in writing.

Within thirty (30) days of the receipt of EPA notification of SOP disapproval, the respondent shall amend and submit to EPA a revised SOP. In the event of subsequent disapproval of the SOP, EPA reserves the right to conduct the RI/FS for that respondent to the extent authorized by CERCLA. In the event of such election by EPA, that respondent's obligations assumed hereunder shall terminate without penalty.

Each respondent shall implement the tasks detailed in its approved SOP. This work shall be conducted in accordance with the standards, specifications and schedule contained in the SOP.

EPA shall review the preliminary and final reports (as required by each attached Scope of Work), and within thirty (30) days of receipt by EPA of any such reports, EPA shall notify the respondent submitting the report, in writing, of EPA's approval or disapproval of such reports or any part thereof. In the event of any disapproval, EPA shall specify the deficiencies in writing.

Within thirty (30) days of receipt of EPA notification of preliminary or final report disapproval, the respondent shall amend and submit to EPA a revised report. In the event of subsequent disapproval of the report, EPA reserves the right to amend such reports and to perform such additional studies as it deems necessary to the extent authorized by

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CERCLA. In the event of such election by EPA, that respondent's obligation to write a report acceptable to EPA shall terminate without penalty.

No approvals or disapprovals required to be made by EPA pursuant to this section shall be made by an employee of EPA below the Chief, Hazardous Waste Enforcement Branch. The respondents shall have the right to review by the Division Director, Hazardous Waste Management Division of any disapproval. The time for resubmittal of a disapproved document shall be extended for a period equal to the time taken for review by the Division Director. This review shall not operate as a substitute for any other form of review, either administrative or judicial, to which a respondent may be entitled.

Three copies of documents, including reports, approvals or other correspondence to be submitted pursuant to this Consent Order, shall be sent by certified mail to the Project Coordinators for New Jersey Zinc, G & W and EPA, as they may hereafter be designated in writing.

VII. DESIGNATED PROJECT COORDINATORS

On or before the effective date of this Consent Order, EPA, G & W and New Jersey Zinc shall each designate a Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between respondents and EPA and all documents, including reports, approvals, and other correspondence, concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be directed through the Project Coordinators.

EPA, New Jersey Zinc and G & W each has the right to change its

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respective Project Coordinator. Such a change shall be accomplished by notice to all other parties in writing at least five (5) calendar days prior to the change.

The EPA Project Coordinator shall have the authority vested in the On-Scene-Coordinator by the National Contingency Plan, 40 C.F.R. Part 300, 47 Fed. Reg. 31180 (July 16, 1982). This authority includes the authority to halt, conduct, or direct any tasks required by this Consent Order and/or any response actions or portions thereof when conditions present an immediate risk to public health or welfare or the environment. In the event that work is halted or changed under order of the EPA Project Coordinator pursuant to this section, the schedule for completion of the work set forth in the affected SOP shall be extended to the extent of such delay.

VIII. SITE ACCESS

To the extent that property included in the study area is presently owned by parties other than those bound by this Consent Order, each respondent will have obtained or will have used its best efforts to obtain site access agreements from the present owners within thirty (30) calendar days of approval of its SOP. Such agreements shall provide access to EPA and/or its authorized representatives and the Pennsylvania Department of Environmental Resources ("DER"). In the event that access agreements are not obtained within the time designated above, EPA shall be notified immediately regarding the lack of such agreements. If EPA is unable to provide such access, the approved SOP may be modified, with EPA's approval, to take account of such lack of access.

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IX. SAMPLING, ACCESS, AND DATA/DOCUMENT AVAILABILITY

Each respondent shall make the results of all sampling and/or tests or other data generated by it, or on its behalf, with respect to the implementation of this Consent Order, available to EPA and shall submit these results in monthly progress reports as described in each attached Scope of Work. EPA will make available to the respondents the results of sampling and/or tests or other data similarly generated by EPA.

At the request of EPA, each respondent shall allow split or duplicate samples to be taken by EPA and/or its authorized representatives, of any samples collected pursuant to the implementation of this Consent Order. EPA shall be notified not less than forty-eight (48) hours in advance of any sample collection activity.

EPA, its authorized representatives and DER shall have access to the Site at reasonable times in order to observe and monitor the progress of the work and to take samples from and to inspect the Site, and shall have the right to inspect and copy records related to the performance of the provisions of the Consent Order as provided herein. EPA shall provide advance notice to the Project Coordinator responsible for the portion of the Site EPA intends to enter. Nothing herein shall be interpreted so as to limit the inspection authority of EPA pursuant to federal law. All parties with access to the Site pursuant to this paragraph shall comply with all approved health and safety plans.

Each respondent shall make available to EPA and shall retain during the pendency of the Consent Order and for a period of six years

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after its termination, all records and documents not privileged, in its possession, custody or control, that relate to the performance of the Consent Order, including but not limited to documents reflecting the results of any sampling, tests or other data or other information generated or acquired by each respondent, or on its behalf, with respect to the implementation of this Consent Order. Following that six years, each respondent shall provide EPA an opportunity to obtain copies of any documents prior to destruction of those materials.

Each respondent may assert a confidentiality claim covering part or all of the information requested by this Consent Order pursuant to 40 C.F.R. §2.203(b). Such an assertion shall be adequately substantiated when the assertion is made. Analytical data shall not be claimed as confidential by either respondent. Information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to the respondent by which it was submitted.

X. DELAY IN PERFORMANCE/STIPULATED PENALTIES

For each week that a respondent fails to submit a report or document or otherwise fails to achieve the schedule requirements of this Consent Order, that respondent shall be liable for the sums set forth below as stipulated penalties. Checks should be addressed to:

EPA Region 3
Regional Hearing Clerk
P.O. Box 360515M
Pittsburgh, PA 15251

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Stipulated penalties shall accrue in the amount of \$375.00 for the first week, or any portion thereof, and \$750.00 for each week thereafter, or any portion thereof, for failure to comply with a schedule as required by this Consent Order.

Any stipulated penalty assessed for failure to meet an interim schedule date for performance of work shall be forgiven in the event that the corresponding final schedule date for completion of the work under the SOP is met.

Delay in compliance/performance by a respondent for which a stipulated penalty may be assessed shall not also subject that respondent to statutory fines and/or punitive damages.

XI. FORCE MAJEURE

Each respondent shall notify EPA within seven days of any delay or anticipated delay caused by circumstances beyond its control that occurs or may occur in the performance of the work or the submission of reports required under this Consent Order. Such notification shall be in writing and shall describe fully the nature of the delay, the actions that will be taken to mitigate further delay, and the timetable by which the actions in mitigation of the delay will be taken. If EPA agrees that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of that respondent, the time for performance hereunder shall be extended for a period equal to the delay resulting from such circumstances. Each respondent shall adopt all reasonable measures to avoid or minimize delay. Failure of a respondent to comply with the notice requirements

of this paragraph shall render this paragraph void for that respondent and shall constitute a waiver of that respondent's right to request a waiver of the scheduling requirements of this Consent Order.

Any failure to timely complete the work or submit reports that results from circumstances beyond the control of a respondent and that cannot be avoided or overcome by due diligence by that respondent, shall not be deemed a violation of this Consent Order and shall not make that respondent liable for the stipulated penalties contained in Section X of this Consent Order. Circumstances beyond a respondent's control may include, but shall not be limited to, adverse weather conditions or unreasonable delay by EPA in reviewing documents or acting on permits. Increased costs of performance of the terms of this Consent Order or changed economic circumstances of a respondent shall not be considered circumstances beyond the control of a respondent. Each respondent shall have the burden of proving that the delay was caused by circumstances beyond its control and that it took all reasonable measures to avoid or minimize the delay.

XII. RESERVATION OF RIGHTS

Except as expressly provided in this Consent Order, each party expressly reserve all rights and defenses it may have. Moreover, except as expressly provided, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, including the imposition of statutory fines and/or punitive damages, or from taking removal or remedial action to the extent authorized by CERCLA or otherwise. EPA will not arbitrarily or unreasonably undertake any

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CERCLA removal or remedial action that falls within the scope of this Order.

In agreeing to this Consent Order, neither respondent admits any legal liability whatsoever in connection with the Site or otherwise, or admits or concurs with any findings of fact or determinations of EPA contained in this Order, including but not limited to those set forth in Section III herein.

XIII. OTHER CLAIMS

Nothing herein is intended to release any claims, causes of action or demands in law or equity against any person, firm, partnership, or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Site.

This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. §9611(a)(2).

Upon completion by New Jersey Zinc of its obligations under the Consent Order, G & W waives all claims that it may have against New Jersey Zinc for recovery of amounts expended by G & W in connection with G & W's performance of its obligations under the Consent Order. Upon completion by G & W of its obligations under the Consent Order, New Jersey Zinc waives all claims that it may have against G & W for recovery of amounts expended by New Jersey Zinc in connection with New Jersey Zinc's performance of its obligations under the Consent Order.

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In taking the actions required to be taken pursuant to this Consent Order, each respondent is responsible for and shall comply with the requirements of all applicable local, state, and federal laws and regulations, including but not limited to all Pennsylvania laws and regulations governing solid and hazardous wastes and the use and land application of sewage sludge.

XV. PUBLIC COMMENT

Upon submittal to EPA of an approved Feasibility Study Final Report, EPA shall make such Feasibility Study Final Report available to the public for review and comment for, at a minimum, a twenty-one (21) day period, pursuant to EPA's Community Relations Policy. Each respondent agrees not to release any reports required under this Consent Decree unless and until they have been approved by EPA. Following the public review and comment period, EPA shall notify each respondent which remedial action alternatives are approved for the Site.

XVI. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

The effective date of this Consent Order shall be the date on which it is signed by EPA. Each respondent acknowledges it has had adequate opportunity to confer with EPA before entry of this Consent Order.

This Consent Order may be amended by mutual agreement of EPA, New Jersey Zinc and G & W. Such amendments shall be in writing and shall have as the effective date, that date on which such amendments are signed by EPA.

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XVII. TERMINATION AND SATISFACTION

The provisions of this Consent Order shall be deemed satisfied by a respondent upon that respondent's receipt of written notice from EPA that it has demonstrated, to the satisfaction of EPA, that all of the applicable terms of this Consent Order have been completed.

IT IS SO AGREED AND ORDERED:

HORSEHEAD INDUSTRIES, INC.

John P. Banksy
Title: Executive Vice President

Sept. 18, 1985
Date

GULF & WESTERN INDUSTRIES, INC.

Don O.
Title: Executive Vice President

September 12, 1985
Date

U.S. ENVIRONMENTAL PROTECTION AGENCY

James M. Seif
JAMES M. SEIF
Regional Administrator
EPA Region III

9/24/85
Date

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SCOPE OF WORK

I. OBJECTIVES

The prime objectives of the New Jersey Zinc RI/FS shall be to:

- a. determine the extent, concentration and physical/chemical properties of hazardous substances at the Site;
- b. determine the character and extent of surface water/sediment contamination caused by the Site and the potential for further contamination;
- c. determine the character and extent of ground water contamination caused by the Site and the potential for further contamination;
- d. assess the potential risks to the public health and the environment associated with the levels of contamination resulting from the Site;
- e. identify technologies for the Site and evaluate their appropriateness/applicability for remediating Site contamination and for compliance with all federal, state and local laws and regulations.

Current RI/FS guidance documents provided to New Jersey Zinc by EPA shall be adhered to in the performance of the RI/FS.

Existing data that is of sufficient quality, reliability and relevancy shall be used to the greatest extent possible to develop and conduct an efficient and effective RI/RS.

II. SITE OPERATIONS PLAN

New Jersey Zinc shall submit a Site Operations Plan within 60 days of the effective date of this Order with the exception of the portion of the operations plan directly relating to TASK 7, which may be submitted within 90 days of the effective date of the Order.

In order to assure cooperation and effective communication during the development of the Site Operations Plan, a weekly project status meeting will be held between the EPA and New Jersey Zinc Project Coordinators. A representative from the Pennsylvania Department of Environmental Resources will be invited by EPA to the meeting.

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The Site Operations Plan shall include the following:

TASK 1 Community Relations Plan

The Site Operations Plan shall include procedures for New Jersey Zinc to assist EPA in implementing EPA's community relations plan in accordance with EPA's Community Relations Handbook.

TASK 2 Health and Safety Plan

The Site Operations Plan shall include a Health and Safety Plan developed in accordance with current RI/RS guidance documents.

TASK 3 Quality Control, Quality Assurance and Chain-of-Custody Procedures Plan

New Jersey Zinc shall specify in the Site Operations Plan all quality assurance, quality control and chain-of-custody procedures used throughout all sample collection and analysis activities. The procedures shall be developed in accordance with the "EPA NEIC Policies and Procedures Manual", May 1978, revised November 1984, EPA-330/9-78-001-R. New Jersey Zinc shall consult with EPA in the development of these procedures and in the planning for, and prior to, all sampling and analysis as detailed in the Site Operations Plan. New Jersey Zinc shall ensure that EPA personnel are allowed access to the laboratory utilized by New Jersey Zinc for analysis of samples collected pursuant to this Consent Order, for the purposes of verifying laboratory capability, adherence to procedures, and inspection of records. New Jersey Zinc agrees to analyze performance evaluation samples at EPA request and further agrees to accept blind samples at a rate not to exceed 10% of the analytical workload.

TASK 4 Ground Survey/Mapping

The Site Operations Plan shall include a schedule for preparing a topographic map of the area 1,000 feet to the east and west of the Cinder Bank running from the north end of Aquashicola Creek to the top of Blue Mountain. The contour interval shall be a minimum of 5 feet. All monitoring wells will be located horizontally and vertically with respect to the site grid and datum.

TASK 5 Cinder Bank Characterization

The Site Operations Plan shall include a schedule to obtain the information necessary to determine the extent, concentrations and physical/chemical properties of hazardous substances at the cinder bank. The schedule shall incorporate the following elements:

- a. a comprehensive data review of existing information to:
(1) identify in detail the types, quantities and location of wastes deposited on the cinder bank, (2) present and summarize available information and analytical data on the concentrations, physical/chemical properties and distribution of hazardous substances on the cinder bank;
- b. submittal of a letter report to EPA detailing the review conducted under a above;
- c. submittal of a letter report to EPA providing EPA with the recommendations on the need for conducting field studies or analyzing existing cores samples to better characterize the cinder bank. If such work is approved by EPA, New Jersey Zinc shall perform the work.
- d. preparation of a list describing all previously collected core samples from the cinder bank. This list shall be submitted to EPA. New Jersey Zinc shall retain such samples for 3 years. All such samples shall be available to EPA or its contractors for analysis upon request.

TASK 6 Surface Water Assessment

The Site Operations Plan shall include a schedule for conducting a surface water assessment. The schedule shall include the following elements:

- a. a comprehensive review of existing data on run-on and runoff, stream quality data and aquatic life in Aquashicola Creek and the Lehigh River in the vicinity of its confluence with the Creek;
- b. preparation of a sampling plan to include the following sampling points: (1) run-on to the cinder bank, (2) runoff/leachate from the cinder bank, (3) surface water/sediment from Aquashicola Creek and the Lehigh River, and (4) all point discharges controlled by New Jersey Zinc. For point discharges not controlled by New Jersey Zinc, New Jersey Zinc will attempt to obtain and review sampling data from owners of the point source. If the data is inadequate New Jersey Zinc will make a reasonable attempt to collect samples of the discharge for analysis. If New Jersey Zinc cannot obtain data and/or collect the samples, EPA retains the right to collect the data and/or have the samples collected.
- c. plans for two rounds of sampling. One round shall be conducted during a wet period in the Spring of 1986 (no later than March 30, 1986) and the other round during a dry period in the Summer of 1986 (no later than August 30, 1986). A minimum of 70 surface water/sediment samples will be collected in total for these two rounds.

- d. flow measurements adequate to perform a mass loading analysis in conjunction with sampling rounds;
- e. samples analysis for total cadmium, lead, manganese, zinc and copper and for pH.

TASK 7 Geology/Hydrogeology Investigation

The Site Operations Plan shall include a program for performing a geology/hydrogeology investigation that will include the following elements:

- a. a comprehensive review of all literature, data and other information regarding the geology and hydrogeology of the site vicinity;
- b. a shallow ground water field investigation program that shall involve the installation of a minimum of 10 shallow monitoring wells (each well approximately 50 feet deep). A minimum of two rounds of well sampling will be performed. If possible, well sampling will be done concurrently with the surface water sampling.
- c. a program to assess the interrelationship between the shallow and deeper formations. Additional wells will be drilled and an adequate testing program will be implemented if the existing information is inadequate to provide an accurate assessment of the interrelationship.

All work under the SOP, including placement of monitoring wells, will take into consideration the need for equivalent or similar work that New Jersey Zinc must complete in order to meet the requirements of RCRA, in order to avoid duplication of required work wherever possible.

TASK 8 Identification of Technologies for Remediating Site Contamination

New Jersey Zinc shall include a schedule for identifying and evaluating remedial technologies and conducting a feasibility study in accordance with current EPA RI/FS guidance documents. As part of this activity New Jersey Zinc shall diligently attempt to obtain a demonstration permit from the Pennsylvania Department of Environmental Resources for applying sewage sludge to the steep slopes of the cinder bank for the purposes of investigating and evaluating techniques to revegetate the cinder bank.

TASK 9 Remedial Investigation Report

A remedial investigation report shall be prepared in accordance with current EPA RI/RS guidance documents. A final remedial investigation report shall be submitted to EPA within 15 months of the effective date of this Order.

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TASK 10 Feasibility Study Report

A feasibility study report shall be prepared in accordance with current EPA RI/FS guidance documents. A final feasibility study report shall be submitted to EPA within 18 months of the effective date of this Order.

TASK 11 Reporting Requirements

The Site Operations Plan shall specify the frequency and content of project status reports to be submitted by New Jersey Zinc to EPA during the performance of the RI/FS.

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SCOPE OF WORK

I. OBJECTIVES

The prime objectives of the Gulf & Western (G & W) RI/FS shall be to:

- a. determine the extent, concentration and physical/chemical properties of hazardous substances in the offsite area deposited by emissions from the New Jersey Zinc smelter, including the extent of surface soil contamination resulting therefrom;
- b. determine the current and potential future risks the hazardous substances are or may be posing to the environment, agriculture and public health in the site area;
- c. identify technologies and evaluate their appropriateness/applicability for remediating the offsite contamination and for compliance with all federal, state and local laws and regulations.

Current RI/FS guidance documents provided to G & W by EPA shall be adhered to in the performance of the RI/FS.

II. SITE OPERATIONS PLAN

Within 15 days of the effective date of this Consent Order, G & W shall submit a Site Operations Plan for the Phase I soil sampling program described in Task 3. Within 15 days of EPA approval of the Phase I SOP, the Site Operations Plan for the other work not relating to the Phase I soil sampling program shall be submitted by G & W.

The Site Operation Plans shall include the following:

Task 1 Community Relations Plan

The Site Operations Plan shall include procedures for G & W to assist EPA in implementing EPA's community relations plan in accordance with EPA's Community Relations Handbook provided to G & W.

Task 2 Health and Safety Plan

The Site Operations Plan shall include a Health and Safety Plan developed in accordance with current RI/FS guidance documents. Level D protection shall be used unless unanticipated site conditions indicate otherwise.

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Task 3 Soil Sampling

The Site Operations Plan shall specify that the soil sampling will include a Phase I and, if determined necessary by EPA, a Phase II sampling program.

The sampling program should be implemented in accordance with the Palmerton Zinc NPL Site Investigation Soil Sampling Protocol, dated September 27, 1984, except to the extent that deviations from the protocol have been required or are in the future approved by EPA. Samples will be collected at the locations previously specified by EPA, unless lack of access or physical obstructions requires that sampling locations be changed.

The total number of laboratory analyses for soil samples and quality assurance samples required in the soil sampling protocol will not exceed 300 for the Phase I program. If EPA determines a Phase II program is necessary, the total number of laboratory analyses of soil samples and quality assurance samples required by the protocol for the Phase I and Phase II programs combined will not exceed 1,000.

The parameters to be utilized by the analytical laboratory for all Phase I and, if necessary, Phase II samples shall be those outlined in the August 19, 1985, letter from R.E. Wright Associates, Inc., to Edward Shoener. The Pennsylvania State University Laboratory or another laboratory acceptable to EPA shall perform all Phase I and, if necessary, Phase II analyses. The quality control and chain-of-custody procedures, as well as the analytical methods to be utilized by the laboratory, shall be developed in accordance with the "EPA NEIC Policies and Procedures manual", May 1978, revised November 1984, EPA-330/9-78-001-R, and shall be specified in the Site Operations Plan.

All Phase I field sampling activities shall be completed within 60 days of Phase I SOP approval. Within 60 days of completion of field sampling activities G & W shall have completed all analyses of the samples and submitted to EPA a compilation of the results for all soil samples and quality control samples. G & W shall also submit copies of any and all logs, notes, sketches, and other information specified in the protocol if requested by EPA.

EPA shall review the Phase I data and determine the need for a Phase II Program. G & W consultants shall be available to EPA for consultation (including one trip to EMSL in Las Vegas, Nevada) in order for EPA to thoroughly analyze the data and specify the requirements, if any, for the Phase II program.

Within 60 days of receipt of all Phase I analyses EPA shall notify G & W if a Phase II program is necessary and if necessary, EPA shall specify in writing to G & W the Phase II sampling locations, depths and quality assurance samples required. Within 30 days G & W shall then modify the Phase I plan to incorporate these new specifications. All other

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specifications in the Phase I plan should be adhered to by G & W in the Phase II program unless the EPA project coordinator grants G & W written permission to make additional modifications.

If a Phase II program is necessary, G & W shall collect the Phase II samples, perform the analyses and shall submit the same type of information as was required for the Phase I program within 180 days of EPA approval of the Phase II SOP. EPA shall review this data and provide to G & W all maps, statistical analyses and technical reports relating to EPA's review of the data's statistical significance and distribution within 60 days of receipt of the Phase II data.

Task 4 - Identification of Technologies for Remediating Site Contamination

Dr. Dale Baker will be retained on behalf of G & W to conduct the investigation and submit the reports and data as specified in "Strategies for Management of Cropland Soils Contaminated with Zinc and Cadmium in the Vicinity of Palmerton, Pennsylvania," Principal Investigator: Dale E. Baker. G & W shall also consider any other technologies as may be appropriate under the requirements of the NCP to remediate any environmental or public health damage or threats. G & W shall include a schedule for identifying and evaluating remedial technologies and conducting a feasibility study in accordance with current EPA RI/FS guidance documents.

Task 5 - Remedial Investigation Report

A remedial investigation report shall be prepared in accordance with current EPA RI/FS guidance documents. All data collected during the field activities required under this Order along with all other data collected by other researchers that is in the possession of EPA or is otherwise readily available to G & W shall be reviewed and evaluated in the RI report. A draft remedial investigation report shall be submitted to EPA within 90 days of G & W's receipt of EPA's review of the Phase II soil data and a final report shall be submitted within 30 days of receipt of EPA draft report comments.

Task 6 - Feasibility Study Report

A feasibility study report shall be prepared in accordance with current EPA RI/FS guidance documents. The feasibility study report shall be submitted at the same time that the RI report is submitted.

Task 7 - Reporting Requirements

The Site Operations Plan shall specify the frequency and content of project status reports to be submitted by G & W during the performance of the RI/FS.